(19) Europäisches Patentamt
European Patent Office
Office européen des brevets

(11) Publication number: **0 261 292**
A3

(12) EUROPEAN PATENT APPLICATION

(21) Application number: **86308065.1**

(51) Int. Cl.4: **H01F 41/02** , H01F 1/04

(22) Date of filing: **17.10.86**

(30) Priority: **28.07.86 US 889760**

(43) Date of publication of application:
30.03.88 Bulletin 88/13

(84) Designated Contracting States:
AT BE CH DE FR GB IT LI LU NL SE

(88) Date of deferred publication of the search report:
27.07.88 Bulletin 88/30

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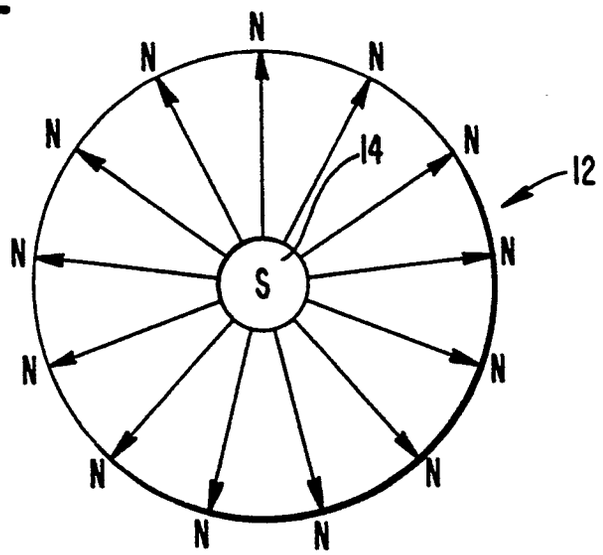
(54) Method of producing fully dense permanent magnet alloy article and article produced thereby.

(57) A method for producing a fully dense permanent magnet article (12,16) by placing a particle charge of the desired permanent magnet alloy in a container, sealing the container, heating the container and charge and extruding to achieve a magnet having mechanical anisotropic crystal alignment and full density.

FIG. 2



EP 0 261 292 A3

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EUROPEAN SEARCH REPORT

Application Number

EP 86 30 8065

DOCUMENTS CONSIDERED TO BE RELEVANT

Category	Citation of document with indication, where appropriate, of relevant passages	Relevant to claim	CLASSIFICATION OF THE APPLICATION (Int. Cl.4)
A	EP-A-0 133 758 (GENERAL MOTORS CORP.) * Page 9, line 26 - page 21, line 11 * ---	1-5,7	H 01 F 41/02 H 01 F 1/04 H 01 F 1/08
A	APPL. PHYS. LETT., vol. 46, no. 8, 15th April 1985, pages 790,791, American Institute of Physics, Warren, Michigan, US; R.W. LEE: "Hot-pressed neodymium-iron-boron magnets" * Left-hand column, line 32 - right-hand column, line 47 * ---	1,3,4	
A	PATENT ABSTRACTS OF JAPAN, vol. 10, no. 209 (E-421)[2265], 22nd July 1986; & JP-A-61 48 904 (HITACHI METALS LTD) 10-03-1986 * Whole abstract * ---	1,3,4	
A	JOURNAL OF APPLIED PHYSICS, vol. 57, no. 8, part 2B, April 1985, pages 4149-4151, American Insititue of Physics, Woodburv, New York, US; H.H. STADELMAIER et al.: "Alternative method of preparing high-coercivity neodymium-iron-boron magnets" * Page 4150, "experiment" * ---	1,4	TECHNICAL FIELDS SEARCHED (Int. Cl.4) H 01 F 41/00 H 01 F 1/00
A	EP-A-0 144 112 (GENERAL MOTORS CORP.) * Page 53, lines 23-29 * ---	5-7	
A	GB-A-2 046 528 (STATNI VYZKUMNY USTAV MATERIALU) * Page 2, line 119 - page 3, line 11 * --- -/-	5,6	

The present search report has been drawn up for all claims

Place of search	Date of completion of the search	Examiner
THE HAGUE	23-03-1988	VANHULLE R.

CATEGORY OF CITED DOCUMENTS

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Category	Citation of document with indication, where appropriate, of relevant passages	Relevant to claim	CLASSIFICATION OF THE APPLICATION (Int. Cl.4)
A	PATENT ABSTRACTS OF JAPAN, vol. 8, no. 213 (E-269)[1650], 28th September 1984; & JP-A-59 99 705 (SUWA SEIKOSHA K.K.) 08-06-1984 * Whole abstract *	8	
A	EP-A-0 108 474 (GENERAL MOTORS CORP.)		
A	CH-A- 525 547 (BROWN, BOVERI & CIE.)		
			TECHNICAL FIELDS SEARCHED (Int. Cl.4)

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